

## Conference schedule

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| <b>Registration</b>   | <b>10.15-10.45</b> |
| <b>Opening act</b>  | <b>10.45-11.00</b> |
| <b><u>Keynote presentation</u>: New Challenges in Medical Robotics</b>  | <b>11.00-11.35</b> |
| <i>Doina Pisla, Technical University of Cluj-Napoca, Romania</i>  |                    |
| <b><u>Keynote presentation</u>: Image-Guided Robotic System for Medical Applications</b>                                    | <b>11.35-12.10</b> |
| <i>Lucian Gruionu- University of Craiova &amp; Gabriel Gruionu - Indiana University School of Medicine, USA</i>             |                    |
| <b><u>Keynote presentation</u>: Auto-Mobility for the Future - Functional and Technical Development</b>                     | <b>12.10-12.45</b> |
| <i>Cornel Stan, West Saxon University of Zwickau, Germany</i>   |                    |
| <b>Technical break</b>  | <b>12.45-13.00</b> |
| <b><u>Keynote presentation</u>: Enabling Technology for Safe Robot-assisted Retinal Surgery</b>                             | <b>13.00-13.35</b> |
| <i>Iulian Iordachita, Johns Hopkins University, USA</i>   |                    |
| <b><u>Keynote presentation</u>: The Dynamics of Equine Locomotion</b>   | <b>13.35-14.00</b> |
| <i>Dan Marghitu, Auburn University, USA</i>   |                    |
| <b><u>Keynote presentation</u>: Self-Organization and Robustness in Biological Systems; Insights for Bioinspired Design</b> | <b>14.00-14.35</b> |
| <i>Corina Tarnita, Princeton University, USA</i>  |                    |
| <b><u>Keynote presentation</u>: Numerical simulation of an over-moulded plastic injection part</b>                          | <b>14.35-15.00</b> |
| <i>Ines Peres, Technical University of Lisbon, Portugal</i>   |                    |
| <b>Sections</b>   | <b>15.00-18.00</b> |

## Technical sections

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| <b>SECTION I. ROBOTICS</b>   |  |                    |
| <b>ROBOTICS I.1.</b><br><b>Chairmen: Nicu Bizdoaca and Ioan Doroftei</b>                       |  | <b>15.00-16.00</b> |
|  | <b>Design and Control of Recover Rehabilitation Parallel Robot</b>   |                    |
|  | <i>Iuliu Nadas, Bogdan Gherman, Stefan Albert, Vasile Surducan, Nicoleta Pop, Giuseppe Carbone, Alexandru Banica, Doina Pisla</i>  | <b>15.00-15.15</b> |
|  | <b>Robotic Electromagnetic and Optical Navigation Platform for Minimally Invasive Surgical Interventions</b>   |                    |
|  | <i>Lucian Gheorghe Gruionu, Catalin Ciobirca, Anca Loredana Udriștoiu, Andreea Valentina Iacob, Ștefan Udriștoiu, Gabriel Gruionu</i>  | <b>15.15-15.30</b> |
|  | <b>Kinematics of an Ankle Rehabilitation Device Based on Scotch-Yoke Mechanism</b>   |                    |
|  | <i>Cristina-Magda Racu (Cazacu), Ioan Doroftei</i>   | <b>15.30-15.45</b> |
|  | <b>Virtual Simulation for a Sensory Glove with Haptic Feedback</b>   |                    |
|  | <i>Stefan-Irinel Cismaru, Florina-Luminita Besnea (Petcu), Andrei-Costin Trasculescu, Ionut-Cristian Resceanu, Horatiu Roibu, Lidia-Cristina Bazavan, Marian Ionescu, Nicu-George Bizdoaca</i> | <b>15.45-16.00</b> |
| <b>ROBOTICS I.2.</b><br><b>Chairmen: Nicolae Dumitru, Lucian Gruionu and Cristian Copilusi</b> |  | <b>16.00-17.00</b> |
|  | <b>Development of a Control System for an Innovative Parallel Robot used in Minimally Invasive Treatment of Hepatic Tumors</b>   |                    |
|  | <i>Alin Burz, Emil Mois, Bogdan Gherman, Ionut Ulinici, Corina Radu, Calin Vaida, Nadim Al Hajjar, Alexandru Bănică, Doina Pisla</i>   | <b>16.00-16.15</b> |
|  | <b>Human Machine Interface for a Robotic Cooperative Structure</b>   |                    |
|  | <i>Horatiu Roibu, Lidia-Cristina Bazavan, Florina Besnea (Petcu), Stefan Irinel Cismaru, Nicu George Bizdoaca</i>  | <b>16.15-16.30</b> |
|  | <b>Impact Dynamics at a Planar Mechanism with Deformable Elements</b>  |                    |
|  | <i>Andra Raluca Constantin, Nicolae Dumitru, Ionut Daniel Geonea, Cristian Petre Copilusi</i>  | <b>16.30-16.45</b> |
|  | <b>Experiments on the Affective Cognitive Reactions of a Group of Interconnected Animatronic Structures</b>  |                    |
|  | <i>Marian Ionescu, Florina Besnea (Petcu), Ilie Borcosi, Stefan-Irinel Cismaru, Gheorghe Gilca, Nicu-George Bizdoaca</i>   | <b>16.45-17.00</b> |

| <b>SECTION II. BIOMECHANICS</b>  |  |                    |
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| <b>BIOMECHANICS II.1.</b><br><b>Chairmen: Daniela Tarnita, Ligia Rusu and Ionut Geonea</b> |  | <b>15.00-16.00</b> |
|  | <b>Numerical Processing of a Human Locomotion Rehabilitation Exoskeleton</b>                             | <b>15.00-15.15</b> |
|  | <i>Eugen Rosu, Nicolae Dumitru, Cristian Copilusi, Ionut Geonea</i>                                      |                    |
|  | <b>Nonlinear Analysis of Human Hip Movement</b>  | <b>15.15-15.30</b> |
|  | <i>Marius Georgescu, Alin Petcu, Daniela Tarnita</i>   |                    |
|  | <b>Biomechanic Analysis of Ingression and Egression in Driving Position</b>                              | <b>15.30-15.45</b> |
|  | <i>Catalin Popa, Alis Oana Sandu, Doina Miron (Bistriceanu), Andreea Rosca, Mihnea Marin, Ligia Rusu</i> |                    |
|  | <b>Design and Numerical Simulation of a Lower Limb Rehabilitation Exoskeleton</b>                        | <b>15.45-16.00</b> |
|  | <i>Alin Petcu, Marius Georgescu, Daniela Tarnita</i>   |                    |
| <b>BIOMECHANICS II.2.</b><br><b>Chairmen: Mihnea Marin and Marius Stanescu</b>             |  | <b>16.00-16.45</b> |
|  | <b>Postural Stability Using Pressure Center Analysis</b>   | <b>16.00-16.15</b> |
|  | <i>Andreea Ungureanu, Eduard Robert Sakizlian, Alexandru Chivaran, Mihnea Marin, Ligia Rusu</i>          |                    |
|  | <b>Role of Determination the Loading Parameters of Foot in Evaluation of Pes Planus</b>                  | <b>16.15-16.30</b> |
|  | <i>Michi Geambesa, Hisham Mohammad Othman Abu Taha, Al Ogaili Waleed Adnan, Mihnea Marin, Ligia Rusu</i> |                    |
|  | <b>Experimental Study of the Influence of Road Surface and Car Speed on the Whole Body Vibrations</b>    | <b>16.30-16.45</b> |
|  | <i>Teofil-Alin Oncescu, Alin Petcu</i>   |                    |

| <b>SECTION III. INDUSTRIAL ENGINEERING</b>   |                    |
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| <b>INDUSTRIAL ENGINEERING III.1.</b>   |                    |
| <b>Chairmen: Elena Scutelnicu and Danut Savu</b>   | <b>15.00-16.00</b> |
| <b>Transfer of Low Fusion Metal Filament in 3D Printing</b>  | <b>15.00-15.15</b> |
| <i>Mirela Ciornei</i>  |                    |
| <b>On the Surface Heat Flux in Milling Aluminum Alloys and Austenitic Stainless Steel</b>  | <b>15.15-15.30</b> |
| <i>Emil Nicusor Patru, Dumitru Panduru, Nicolae Craciunoiu, Marin Bica</i>   |                    |
| <b>About the Mechanical Properties of Composite Strips with Natural Reinforcements</b>   | <b>15.30-15.45</b> |
| <i>Alexandru Ioan Rădoi, Cosmin Mihai Mirițoiu</i>   |                    |
| <b>High Entropy Alloy Cladding – a short Review</b>  | <b>15.45-16.00</b> |
| <i>George Simion, Elena Scutelnicu</i>   |                    |
| <b>INDUSTRIAL ENGINEERING III.2.</b>   |                    |
| <b>Chairmen: Gabriel Benga and Madalina Calbureanu</b>   | <b>16.00-16.45</b> |
| <b>Green Materials and Technology Used in Thermal Insulation in Order to Achieve Comfort Conditions in Future nZEB Buildings</b> | <b>16.00-16.15</b> |
| <i>Ovidiu Fudulache, Diana Calbureanu, Madalina Calbureanu</i>   |                    |
| <b>Elaboration and Characterization of the Nanometric Titanium Diboride Powders by Mechanical Milling Method</b>                 | <b>16.15-16.30</b> |
| <i>Iulian Stefan, Gabriel-Constantin Benga, Adrian Olei</i>  |                    |
| <b>Non – Stationary Heat Transfer Analysis in Ventilated Air Ducts from Buildings Installations</b>                              | <b>16.30-16.45</b> |
| <i>Bogdanel Lucian Papadie, Madalina - Xenia Calbureanu - Popescu, Diana - Mara Calbureanu - Popescu, Dragos Tutunea</i>         |                    |
| <b>INDUSTRIAL ENGINEERING III.3.</b>   |                    |
| <b>Chairmen: Saracin Ion, Sorin Savu and Nicolae Craciunoiu</b>  | <b>16.45-17.45</b> |
| <b>Microwave Heating of Ceramic Substrate for Catalytic Applications</b>   | <b>16.45-17.00</b> |
| <i>Robert Cristian Marin</i>   |                    |
| <b>Approach with Theoretical Methods of the Track Generated by a Body in Rotary Movement on a Flat Surface</b>                   | <b>17.00-17.15</b> |
| <i>Valentin Iordache, Ion Saracin</i>  |                    |
| <b>Studies on the Working Process of a Cup for Planting Seedlings</b>  | <b>17.15-17.30</b> |
| <i>Paul Marius Mitrache, Ion Saracin</i>   |                    |
| <b>Studies about Manufacturing Possibilities of an Electromechanical Device of Protection in Orthopedics</b>                     | <b>17.30-17.45</b> |
| <i>Bogdan Ionut Ruse, Ion Sărăcin</i>  |                    |

| <b>SECTION IV. AUTOMOTIVE</b>   |                    |
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| <b>AUTOMOTIVE IV.1.</b>   |                    |
| <b>Chairmen: Anghel Chiru, Ilie Dumitru and Laurentiu Racila</b>  |                    |
| <b>The Influence of the Impact Angle over Cyclist throw Distance in Vehicle-Cyclist Collisions</b>  | <b>15.00-16.00</b> |
| <i>Ovidiu Andrei Condrea, Anghel Chiru, Daniel Dragoş Trusca, George Toganel, Rareş Lucian Chiriac</i>  | <b>15.00-15.15</b> |
| <b>Road Traffic Assessment in Relation to Driving Style by Modelling Algorithms</b>   | <b>15.15-15.30</b> |
| <i>Bogdan Florescu, Alexandru Oprica, Ilie Dumitru, Lucian Matei</i>  |                    |
| <b>Vehicle Detection and Counting Using Image Processing Technique</b>  | <b>15.30-15.45</b> |
| <i>Carmen Gheorghe, Nicolae Filip</i>   |                    |
| <b>The New Solutions of Hybrid Turbochargers for the Energy Utilization of the Exhaust Gases of the Internal Combustion Engines</b>                     | <b>15.45-16.00</b> |
| <i>Rares-Lucian Chiriac, Anghel Chiru, Ovidiu Condrea</i>   |                    |
| <b>AUTOMOTIVE IV.2.</b>   |                    |
| <b>Chairmen: Stefan Tabacu, Marin Bica and Adrian Sorin Rosca</b>   |                    |
| <b>On the Eigen Frequencies of the Vibrations of Aluminum Parts in Automotive Components</b>  | <b>16.00-16.15</b> |
| <i>Ionut Geonea, Valeriu Ionică , Cosmin Mirișoiu</i>   |                    |
| <b>Modeling and Simulation of a Test Bench for Fatigue Testing of the Rear Axle of a Car</b>  | <b>16.15-16.30</b> |
| <i>Valeriu Ionica, Marius Stanescu, Leonard Ciurezu, Ionut Geonea</i>   |                    |
| <b>Study on the Evolution of Air Flow by Modeling the Operation of the Throttle in Relation to the Load Regulation in Spark-Ignition Engines</b>        | <b>16.30-16.45</b> |
| <i>Alexandru Oprica, Marin Bica, Bogdan Florescu, Laurențiu Racila, Ilie Dumitru</i>  |                    |
| <b>Analysis of Theoretical, Experimental Results of 3D Tetra-Anti-Chiral Structure and Circular Cross-Section Tube Structure under Compressive Load</b> | <b>16.45-17.00</b> |
| <i>Paul Predoiu, Raluca Negrea, Stefan Tabacu, Dinel Popa</i>   |                    |